

Dedication

**To my
Father, who taught me what
a life is.**

Great mother.

Lovely husband.

**Kids Abd Elrahman and
Leenh.**

Sisters and brothers.

Teachers and colleagues.

**To all patients suffer from
illness.**

**I dedicated this
simple effort**

Acknowledgment

Firstly I would like to express my thanks and gratitude to supervisor **Dr. Malik Hassan Ibrahim Elfadni** for his supervision, endless help and continuous follow up, and his precise observations throughout this study.

My thanks also are extended to **Babiker Mohammed Ahmed in Health Sciences Academe** (El-Gadarif state) who gave me much time to contact patients.

Grateful thanks to my husband who always give me kindness, force and confidence.

Words can not express my gratitude to my family & relatives who maintained their loving support & help.

My appreciation also goes to my teachers and colleagues in hematology department, Sudan University of Science and Technology.

Abbreviations

D-dimer:	D&D fibrin degradation products.
DIC:	Disseminated Intravascular Coagulation.
DNA:	Deoxyribo Nucleic Acid.
G6PD:	Glucose 6 Phosphate Dehydrogenase.
Hb :	Haemoglobin.
HbF:	Fetal hemoglobin.
IL:	Interleukin.
INR :	International Normalized Ratio.
MCV:	Mean cell Volume.
MCH:	Mean Cell Haemoglobin.
MCHC:	Mean Cell Haemoglobin Concentration.
PAI-1:	Plasminogen activator inhibitor -1.
PC:	Protein C.
PCV:	Packed Cell Volume.
PPP:	Platelet Poor Plasma.
PS:	Protein S.
PT :	Prothrombin Time.
PTT:	Partial Thromboplastin Time.
RBCs:	Red Blood Cells.

SCD: Sickle Cell Disease.
SCT: Sickle Cell Trait.
TAT: Thrombin –anti thrombin.
TFPI: Tissue Factor Pathway Inhibitor.
TNF: Tumor Necrosis Factor.
tPA: tissue Plasminogen Activator .
TT: Thrombin Time.
VCAM-1: Vascular Cell Adhesion Molecule -1.

Abstract

This was comparative, cross-sectional and analytical study has been carried out in Algadarif state from May to August 2009. The study aimed to determine the level of D-dimer in order to detect the significance of activated fibrinolysis in sickler patients randomly (steady state and non steady state). Sixty one blood samples were collected into trisodium citrated containers (2.5 ml) from sickler patients in steady state or crises. Fifteen control samples were collected from healthy people matched with age and sex of patients.

All samples were investigated for PT, PTT, and INR was calculated using full automatic coagulation analyzer CA-500, D-dimer was investigated using NycoCard D-dimer Single Test.

Data were analyzed using program of Statistical Package for Social Sciences (SPSS).

The study revealed that the mean level of D-dimer was higher in all sickler patients (whether in steady state or in non steady state), and the P value was (0.000) when compared with control. But (P values > 0.005) in case of PT, PTT&INR and this means the differences were not significant.

Also the study revealed that no significant difference between patients in steady state and non steady state for the parameters of PTT and D-dimer (p 0.736 and 0.721 respectively) ,while significant difference was found in PT&INR(P 0.004 and .003 respectively).

The study concludes that the activation of fibrinolytic process does not associate with patient clinical state, but associated with inheritance of Sickle Cell Disease .PT& INR values can be effective in follow up of sickler patient's thrombotic crises.

Very important recommendation that more studies on larger number of patients must be done to detect the invivo cause of fibrinolysis activation, and to detect the diagnostic test for crises.

مستخلص البحث

اجريت هذه الدراسة المقارنة والمقطعية والتحليلية في ولاية القضايف في الفترة من مايو الى اغسطس 2009.

هدفت الدراسة الي تحديد مستوي نواتج تحليل الفبرين D-dimer في المرضى المصابين بالانيميا المنجلية بغرض معرفة فعالية الاختبار في النوبات الحادة.

استهدفت الدراسة حوالي واحد وستين مريضا تم اختيارهم عشوائيا سواء في حالة استقرار او في نوبات الم .

تم تجميع عينات دم وريدي من مرضى فى نوبات الالم و مرضى فى الحالة المستقرة في اوعية بلاستيكية تحتوي على مانع التخثر ثلاثي سترات الصوديوم .بعد تحضير البلازما تم اجراء اختبارات زمن البروترومبين وزمن الثرومبوبلاستين وحساب INR باستعمال جهاز قياس التخثر CA-500 وتم استعمال Single Test NycoCard D-dimer لقياس مستوى D-dimer .

تم تحليل البيانات باستعمال برنامج الحزم الاحصائية للعلوم الاجتماعية SPSS . أظهرت النتائج إرتفاع مستوى D-dimer في المرضى فى كلتي الحالتين , وعند المقارنة بمجموعة المقارنة كان الفرق معنويا في كلتا الحالتين (P.value 0.000) بينما لم يكن هناك فرق معنوي في حالة زمن البروترومبين (PT) وزمن الثرومبوبلاستين (PTT) و INR حيث كانت (P>0.005) .

عند مقارنة زمن البروترومبين وزمن الثرومبوبلاستين D-dimer و INR بين المرضى في الحالة المستقرة والمرضى في حالة النوبات المؤلمة لم تظهر فروق معنوية في حالة زمن الثرومبوبلاستين (PTT) و D-dimer (P=0.721) و 0.736 (على التوالي) .

واما في حالة زمن البروترومبين PT و INR كان المتوسط عاليا في المرضى المصابين بنوبات تخثر مؤلمة (P = 0.004 003) على التوالي .

خلصت الدراسة الي ان ارتفاع مستوى D-dimer ليس له علاقة بالحالة السريرية التي يمر بها مريض الانيميا المنجلية وانما ترجع الى وجود المرض نفسه .

كذلك خلصت الدراسة الى انه يمكن استخدام اختبار (PT) و (INR) في متابعة نوبات الالم الحادة للمرضى .

اهم توصيات هذه الدراسة باجراء دراسات واسعة على عدد اكبر من المرضى مع دراسة العامل الوراثي .

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